

Salas, Héctor N.

Supercyclicity and weighted shifts. (English) Zbl 0940.47005
Stud. Math. 135, No. 1, 55-74 (1999).

After introducing the notion of cyclicity, hypercyclicity and supercyclicity the author presents a sufficient criterion for supercyclicity in Fréchet spaces along with some of its consequences. These results are used for characterizing the supercyclic bilateral shifts in terms of their weight sequences.

If the operators in question act on a separable Hilbert space one can ask whether hypercyclicity is preserved under C^* -isomorphisms. This question is answered negatively, even when the operators in question are supercyclic.

It is proved that a Banach space operator T has an infinite-dimensional closed subspace whose non-zero vectors are supercyclic, provided that T satisfies a supercyclicity criterion and zero is in its left essential spectrum. The paper ends with some concluding remarks and open questions.

Reviewer: [André Noll \(Clausthal-Zellerfeld\)](#)

MSC:

[47A16](#) Cyclic vectors, hypercyclic and chaotic operators
[47A65](#) Structure theory of linear operators

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